United States Patent [19]

Luck et al.

[11] **4,140,537**

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[54] AQUEOUS COLLAGEN COMPOSITION

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 624,678, Oct. 22, 1975, abandoned.

[51] **Int. Cl.**[2] **C08L 89/06**

[52] **U.S. Cl.** **106/155;** 106/161; 260/123.7

[58] **Field of Search** 106/161, 155, 141; 264/202; 260/123.7

[56] **References Cited**

U.S. PATENT DOCUMENTS

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[57] **ABSTRACT**

The naturally occurring collagen is modified by removal of certain terminal peptide chains, which are described as telopeptides. The modified collagen, so derived, is described as atelopeptide collagen. Native collagen is immunogenic, while atelopeptide collagen is nonimmunogenic or possessed of a negligibly low level of immunogenicity.

The collagen in solution is then treated according to a specific regimen under conditions whereby the collagen slowly separates from solution while exposed to mild shear forces. This procedure results in the formation of a fibrous precipitate composed of regularly ordered fibers of collagen possessed of a ropelike structure. These resulting aggregates are referred to as native fibrous micropolymers (NFM). Once the regimen or procedure is completed, and the fiber mass has been formed, the fibrous micropolymers may be freed of salt, taken up in a different solution or modified. For example, cross-links may then be introduced to stabilize the fibers. The products find wide use as packing, membranes, fibers, bags, supports, integuments, and are especially suitable for biologic implantation or application.

1 Claim, No Drawings